ANALYSIS METHODS OF LEAKAGE CURRENT LUMINESCENCE IN CMOS CIRCUITS

ABSTRACT OF THE DISCLOSURE

Disclosed are a method and system for analyzing leakage current luminescence in CMOS circuits. The method comprises the steps of collecting light emission data from each of a plurality of CMOS circuits, and separating the CMOS circuits into first and second groups. For the first group of CMOS circuits, the emission data from the CMOS circuits are analyzed, based on the presence or absence of leakage light from the CMOS circuits, to identify logic states for the CMOS circuits. For the second group of CMOS circuits, the emission data from the CMOS circuits are analyzed, based on modulation of the intensity of the light from the CMOS circuits, to determine values for given parameters of the circuits. These parameters may be, for example, temperature, cross-talk or power distribution noise.